Journal of Interpretation

Volume 31 | Issue 1 Article 2

2023

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Cover Page Footnote

ACKNOWLEDGEMENTS I am grateful for my advisors Dr. Robyn Dean and Dr. Rachel Rosentstock for their guidance and support. I want to recognize and thank Chris A. McQuaid, Ronald Rood Jr. and Catherine Stutzman for their part in making the sample videos used in my research. Lastly, I am grateful for Dr. Maribel Garate, Emily Schenker and Chris A. McQuaid for their feedback.

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ABSTRACT

This study explores the perceptions and preferences of healthcare providers who work with Deaf Interpreter-Hearing Interpreter (DI-HI) teams. Healthcare providers depend on interpreters' ability to bridge the communication and cultural gap to assess and treat patients accurately. Although there have been studies on healthcare providers' perceptions of interpreters to date, none of the research explores the impact of healthcare providers' perceptions on their experiences with DI-HI teams. To address this, interviews with nine healthcare practitioners were conducted. As part of the interview, participants were shown a video of two interpreting samples to illustrate different approaches to interpreting. Data were analyzed using inductive content analysis, which identified three major themes: (1) co-construction of the message, (2) providers' trust in the interpreters and the interpreting process, and (3) providers' knowledge/need for education. Results indicate that healthcare providers prefer teams who use the community approach to interpreting (Hoza, 2021) to allow for a better understanding of patients' health literacy and the opportunity to co-construct meaning (Janzen & Shaffer, 2008; Hoza, 2021). When healthcare practitioners are aware of their patient's level of health literacy, they can modify communication and treatment accordingly, which fosters trust and positive interpersonal experiences.

INTRODUCTION

Interpreters can both aid and hinder healthcare providers in their assessment and treatment of patients (Hsieh, 2007; Hsieh & Kramer, 2012). Healthcare providers depend on interpreters' ability to bridge the communication and cultural gap to assess and treat patients accurately. This dependence gives interpreters power and influence over healthcare providers' perceptions of how their patients understand an interpreted interaction (Hsieh, 2007; Hsieh & Kramer, 2012).

Unique to the work of signed language interpreters are Deaf interpreter-hearing interpreter (DI-HI) teams. These teams work in various settings (e.g., platform, medical, mental health, legal) and for various reasons (Adam et al., 2014; Standard Practice Paper: Use of a Certified Deaf Interpreter, 1997). For example, a DI-HI team may be used when a Deaf person's language is such that a hearing interpreter may not be familiar because of cultural references or linguistic style (Standard Practice Paper: Use of a Certified Deaf Interpreter, 1997).

Not only are DI-HI teams beneficial for issues of language, they are also essential for cases of low health literacy. To contextualize this, half of the adult population in the United states has poor health literacy; "the majority of these individuals with limited skills are white, native-born Americans" (Davis & Wolf, 2004, p. 595). According to Pollard & Barnett (2009), health literacy among the Deaf community is poor. Hall et al. (2018) explain this phenomenon, stating that many

Deaf people do not have access to everyday spoken conversations between family members regarding health history, discussions of healthcare appointments and so on (ibid.). This lack of access to incidental learning results in 'fund of knowledge' deficits that impact health literacy (ibid.). When interpreting for a community for whom incidental information is not accessible, Deaf interpreters are the most equipped to bridge these 'fund of knowledge' gaps given their expertise in sign language, Deaf culture, and lived experience of being Deaf (Forestal, 2014). Cogen & Cokely (2015) also note, "Interpreters who are Deaf themselves are increasingly recognized as the best solution for at-risk populations" (p.20). Furthermore, the use of the community approach to interpreting is ideal to mitigate the power and influence DI-HI teams have on interpreted interactions. The community approach includes *all* interlocutors in the interpreting process and is often consecutive rather than simultaneous (Hoza, 2021). In short, the provision of optimal services for at-risk Deaf people seeking healthcare involves the utilization of DI-HI teams.

Current literature offers some insight into healthcare providers' experiences with interpreters. Findings show that providers are often affected by time constraints (Leanza, 2005), rely on interpreters to be cultural brokers (Miklavcic & LaBlanc, 2014), and at times, would rather use written communication than an interpreter (Ebert & Heckerling, 1995). This body of research, however, is limited to spoken language and hearing signed language interpreting; to date, no existing literature focuses specifically on healthcare providers' perceptions and experiences with interactions interpreted by DI-HI teams.

The study discussed in this paper addresses this gap in literature by providing insight into healthcare providers' experiences and perceptions of DI-HI teams and the consequent impact on how they understand, communicate with, and relate to their Deaf patients. It will address approaches DI-HI teams use when conveying messages and how those approaches can inform healthcare providers about a patient's health literacy (i.e., community interpreting approach). Data from the interviews of nine healthcare practitioners offer an account of their experiences with and perceptions of DI-HI teams. Lastly, the word Deaf will be capitalized throughout this paper as an all-inclusive term. This decision is based on a recent study by Pudans-Smith (2019) which found that there has been no consensus on the use of "d" versus "D" among Deaf individuals.

LITERATURE REVIEW

HEALTHCARE PROVIDERS' EXPERIENCES WITH INTERPRETERS

Literature on healthcare providers' experiences with interpreters for spoken and signed languages often relates to communication access and cultural mediation. For instance, Suarez et al. (2021) conducted a study using semi-structured interviews of physicians, nurses, and interpreters, asking about their perception of the roles interpreters take on for patients with limited English proficiency in the intensive care setting. The study found benefits when interpreters acted as cultural brokers and advocates of health literacy (Suarez et al., 2021). Another study used semi-structured interviews with pediatricians and family medicine physicians to ask their perception of interpreters and found that "physicians describe four broad roles that they see or would like to see interpreters play in pediatric health care encounters: language conduit, flow manager, relationship builder, and cultural insider" (Schwei et al., 2019, p. 6). In a study by Pittarello (2009), 26 interpreted healthcare encounters were observed. The results of the study concluded that interpreters were active participants during the interpreted encounters based on the cultural mediation they provided and

based on how the hearing interlocutors directly addressed them (ibid.). A common finding in these studies is that interpreters are perceived as having the role of cultural mediator or informant.

While Pittarello, Suarez et al., and Schwei et al. found that healthcare providers perceive interpreters to play the role of cultural mediator, other research explored interpreter utilization and the perceived alliance of interpreters. Leanza (2005), who studied pediatric interpreted encounters between parent/child and provider, found that at times the interpreters considered themselves cultural informants, but only unidirectionally from provider to patient. According to the interpreters and analysis of the recorded encounters, the study concluded that "the only roles the interpreter can play outside the health-related ones are those that do not pose a challenge to the physicians' power and position" (Leanza, 2005, p. 185). In addition, providers "felt a loss of control in their consultation and at times also felt excluded from the interaction with the parent" (Leanza, 2005, p. 176). Other researchers report that providers underutilize interpreters because they perceive interpreted interactions to be more difficult and time-consuming (Hsieh, 2015; Leanza, 2005). Ebert and Heckerling (1995) surveyed internal medicine physicians regarding their understanding of Deaf patients and how they communicate. The findings indicated that 63% of physicians surveyed were aware that patients who sign should be provided with sign language interpreters, yet only 22% regularly used interpreters in practice (ibid.). Davidson (2001), noted that interpreters are impacted by the system "in which they work in tandem with physicians to 'keep interviews moving' and, consequently, to move non-English speaking patients quickly to the door" (p. 170). The perceived alliance of the interpreter and the negative experiences of the providers from the aforementioned studies are relevant concerns that this study addresses in the context of DI-HI teams.

Valero-Garcés (2005) studied three different encounters between patients and providers and uncovered that the person a provider directly communicates with influences their communication approach. The first encounter was without an interpreter, the second was with an untrained interpreter (i.e., family member), and the third with a trained spoken language interpreter. Valero-Garcés (2005) found that doctors will adapt the language they use, "that is, the doctor tries to offset or to reduce the communicative distance by adapting the grammar and vocabulary to both the patient's and the interpreter's knowledge of the language" (pp. 205-206). When applied to interpreting situations in general, Valero-Garcés' results indicate that, in instances where an interpreter is present, the medical provider's perception of a patient's health literacy may be gleaned only from the interpreter's audible work; providers may not be aware to the degree to which the interpreter must expand upon the message to reach a linguistic and cultural equivalency. Because of this, the provider lacks the information necessary to make an informed decision regarding their communication approach, as explained by Valero-Garcés (2005). The current study addresses this gap in information and identifies strategies to mitigate the loss of key clinical information.

INTERPRETING APPROACH

Signed language interpreting has evolved over the years in terms of how interpreting is approached. Interpreting originated with a community-based approach in which Deaf people shared information and interpreted for each other; then, with the professionalization of the field, interpreting shifted to become more mainstream and simultaneous (Forestal, 2014; Hoza, 2021; Kent, 2012). The community interpreting approach is "characterized by active negotiation with

participants" and incorporates the "discourse norms of the signed language community" (Hoza, 2021 p. 382-383). By contrast the mainstream approach, used and popularized by mostly hearing interpreters, prioritizes the hearing interlocutors' discourse norms and is typically simultaneous (Kent, 2012). The community approach to interpreting considers "role-space" (Llewellyn-Jones & Lee, 2014, p. 10) by recognizing that interpreting is more than message transfer. Role-space refers to how interpreters present themselves throughout an interaction, align themselves with the Deaf and hearing interlocutors, and manage the communication exchange (Llewellyn-Jones & Lee, 2014). The concept of role-space and how it is used by DI-HI teams to co-construct meaning with both hearing and Deaf interlocutors is explored in this study.

Wadensjö (1993) studied how interpreters manage interactions and described interpreters' use of "meta-comments" (p. 116) as a technique that provides explanations during an interpreted encounter. For example, interpreters will state what the primary party of the interaction "seems to mean" (Wadensjö, 1993, p. 116), or the interpreter will tell the primary party that "the other primary party does not understand, or understands in a different way than the person addressed" (Wadensjö, 1993, p. 116). Of relevance to this study are Wadensjö's (1993) references to the choices interpreters make regarding what is put on the record versus what is off the record, meaning what interpreters choose to disregard or omit from the interpretation. These choices, specifically when made by DI-HI teams regarding how to manage interactions, impact how interlocutors perceive one another. For instance, if the DI-HI team does not inform the provider that the patient does not understand, the provider will assume that what they said has been understood, which in turn could adversely impact how they treat the patient (Hsieh & Kramer, 2012).

DEAF INTERPRETER-HEARING INTERPRETER TEAMS

"Cultural consultation frequently requires the use of resource people who can help interpret the cultural meaning of illness and healing. This task goes beyond linguistic interpreting and may be essential even when a patient and clinician share a language" (Miklavcic & LaBlanc, 2014, p. 115). The Deaf interpreter of a DI-HI team can be this resource for Deaf patients (McDermid, 2010). Most hearing interpreters, while experts on hearing culture and their native language, learn sign language as adults and have not been a member of the Deaf community (Nicodemus & Emmorey, 2013). Spoken language interpreters are often from the community they interpret for, thus are familiar with cultural differences that may need to be mediated (Nicodemus & Emmorey, 2013). "[I]n situations in which both a hearing and Deaf interpreter are employed, it allows each to focus on their 'A' language, their stronger language, providing a separation of duties" (McDermid, 2010, p. 79). When a DI-HI team works together, each member of the team is able to focus on their respective language and culture, allowing both the healthcare provider and Deaf patient to fully participate in an interpreted interaction.

The ability for a person to fully participate in one's own healthcare is central to patient-centered care (Constand et al., 2014). For some patients full participation may require cultural brokering and enrichment. Enrichment is necessary when two languages use different strategies to make meaning explicit (Sequeiros, 2002). For example, there may be "contextual (e.g., cultural) assumptions required to interpret the original text successfully [but] may not be easily accessible to the target audience" which may require the interpreter to add contextual information (Sequeiros, 2002, p. 1078). Cultural brokering happens when interpreters "clarify aspects of the healthcare

system" and when they are "involved in negotiation of divergent viewpoints or conflicts between the patient and health care providers" (Miklavcic and LeBlanc, 2014, p. 127). Cultural brokering and enrichment are strategies Deaf interpreters use during interpreted interactions (McDermid, 2010). Miklavcic and LaBlanc (2014) conducted an ethnographic study of cultural brokering and cultural mediation in medical settings where marginalized and underserved spoken language communities frequent. They found that interpreters are included in the list of people who take on the role of cultural broker (ibid.), which aligns with McDermid's (2010) finding regarding Deaf interpreters.

When it comes to cultural brokering, and interpreting approaches, Deaf interpreters and hearing interpreters do not always agree with what is ethical and within the scope of practice of interpreters (Russell, 2017). Russell (2017) studied DI-HI teams to learn about the complexity of the teaming process specific to working with Deaf people whose language is atypical, meaning they are not fluent in ASL. Interpreting strategies of DI-HI teams were found to be on a continuum (ibid.). Forestal (2011) interviewed Deaf interpreters in her study and noted a "paradigm shift [that] has created a fundamental need for research on effective approaches on team processes and curriculum development for retraining of hearing interpreters to work in DI-HI teams" (p. 124). Stone and Russell (2014) echoed this sentiment by emphasizing the need for Deaf and hearing interpreters to come together to discuss interpreting and share their experiences to establish best practices. These studies highlight the need for more research and training for DI-HI teams and illuminate the importance of teaming dynamics between hearing and Deaf interpreters.

Hoza's (2021) most recent publication on team interpreting includes research on DI-HI teaming and corroborates many of the same points of the aforementioned studies on DI-HI teams. Interviews with DI-HI teams were conducted to explore how the Deaf interpreter and hearing interpreter monitor/support each other, communicate with each other, and co-construct meaning (ibid.). Co-construction refers to the joint effort/responsibility of communication between all parties (Janzen & Shaffer, 2008). This means that the co-construction of an interpretation happens between the HI and DI as well as with the interlocutors when interpreters directly interact with them (Hoza, 2021). Hoza (2021) speaks to this direct interaction:

> Teams of interpreters interact with participants for various reasons, which reflects their role-space…Participants may indicate that they are confused or prefer that interpreters move or alter their interpretation in some way. Interpreters may ask participants to wait in order to "hold time" so that the team can control the pace and flow of the interaction and communication. Teams may ask someone to repeat or clarify what was just said; may ask a participant to go ahead with a turn or to hold a turn; or may inform a participant about something in the environment that may be important for that person to know about, such as another participant's manner or tone. (p. 322)

Including the interlocutors in the co-construction part of the interpreting process is an important focus of this study. Participants were specifically asked about their experiences with DI-HI teams in this regard.

Literature referenced here on signed language interpreting approaches and DI-HI teams help to contextualize why further research is needed. To date, studies on the perceptions of healthcare providers regarding their experiences working with interpreters only include spoken and hearing signed language interpreters. Thus, this study addresses a gap in the literature by using

data collected from semi-structured interviews with nine healthcare providers to learn how they perceive DI-HI teams with regard to how the team's approach affects the overall assessment and treatment of patients.

METHODOLOGY

This study involves healthcare providers who work for a hospital system that employs a sizable staff of both hearing and Deaf American Sign Language interpreters. This type of setting is not the norm yet provides an opportunity to study providers who have experience working with a variety of DI-HI teams. The study was qualitative in design and consisted of semi-structured interviews used to gather healthcare providers' perceptions and preferences when working with DI-HI teams. The semi-structured nature of the interviews allowed for open-ended questions and responses. Two short, pre-recorded sample interpretations were shown to participants. The samples were used to illustrate two different approaches to interpreting. The approaches were then used as points of reference for the questions asked during the semi-structured interview to ensure the researcher and participants had a shared understanding. The research questions that guided this study are:

1. How do DI-HI teams affect the patient-provider relationship?
2. How do differing interpreting approaches used by DI-HI teams impact healthcare providers' understanding of their patient's health literacy?
3. In what ways do DI-HI teams impact the interaction/communication between healthcare providers and patients during medical encounters?

PARTICIPANTS

The study included nine healthcare providers. To participate in this study, participants had to be a healthcare practitioner at any level (e.g., MD, NP, PA) who (1) had worked with more than one DI-HI team and (2) had experience working with Deaf patients. Participants were recruited by convenience and opportunity sampling (Hale & Napier, 2013). The researcher works for the same university hospital as those recruited. University email was used to contact participants. The participants were comprised of four females and five males with a mean age of 45 (range 30-72). Seven healthcare providers hold doctorate-level positions, while two hold master's level positions with experience ranging from six to over thirty-five years in practice. Seven participants (P1, P2, P3, P4, P5, P8, P9) subjectively stated having a relatively decent amount (moderate to a lot) of experience working with DI-HI teams; P6 noted having a "handful" of experience and P7 described having "not a lot" of experience.

DATA COLLECTION

An Institutional Review Board granted ethics approval for this study (#03010522). Each participant was emailed a consent form and informed the interviews would be recorded. Interviews were conducted and recorded virtually using Zoom software and ranged in length between 27 to 55 minutes. An interview guide was designed based on the reviewed literature that included sixteen questions. In addition to the sixteen questions, there were demographic questions that inquired about the participants' age, gender, ethnicity, and work experience. The first five questions were related to the participants' experiences with DI-HI teams. Then, a six-minute video containing two sample interpretations of the same simulated medical appointment was shown to each participant. After viewing the video, participants were asked a series of questions about their preferences. The

interview concluded with questions regarding the provider's overall perceptions and preferences when working with DI-HI teams.

The video shown to participants was of a follow up appointment to review blood work results. In both samples, the provider discusses concerns regarding a patient's level of "bad cholesterol" or "LDL" (low-density lipoprotein) and explains how high cholesterol can impact blood vessels. The scenario was chosen because it is common for Deaf interpreters to use enrichment when interpreting concepts regarding cholesterol, and lab results are a common topic during healthcare appointments. The video was scripted by two Deaf interpreters and two hearing interpreters who recreated a scene from appointments they commonly experience. When the script was completed, one of the hearing interpreters took on the role of the medical provider while one of the Deaf interpreters acted out the role of the patient. The other two took on the role of the DI-HI team. During both interpretations, the Deaf interpreter uses expansions and metaphors to make the message accessible. He does so by likening the shape and function of blood vessels to a garden hose; the high cholesterol is compared to a kink in the hose. In video sample 1, the hearing interpreter is quiet during the Deaf interpreter's expansion. In video sample 2, the hearing interpreter narrates the strategies used by the Deaf interpreter in real-time while the Deaf interpreter works.

DATA ANALYSIS

Content analysis (Hsieh & Shannon, 2005) was used to analyze the data. The researcher transcribed and anonymized the recordings to become familiar with the data and identify initial patterns. Upon completion, the transcripts were uploaded to MAXQDA software for coding. The codes were organized into categories and then into themes and subthemes. The three major themes are: (1) co-construction of the message, (2) providers' trust in the interpreters and the interpreting process, and (3) provider knowledge/need for education. Within each theme, there are subthemes which are expanded upon in the results section.

RESULTS

CO-CONSTRUCTION OF THE MESSAGE

This theme emerged from the dialogue regarding different ways teams of interpreters approach an interpretation. The variation that exists within co-construction methods can impact an interaction between a healthcare provider and a patient. The samples of two distinctly different interpreting approaches shown to each participant ensured that all had the same reference point. After analyzing the data from providers' perspectives, four subthemes emerged.

POWER OF INTERPRETERS

This subtheme is derived from the different approaches interpreters use and how those decisions affect the interaction between interlocutors. The co-construction of meaning in the spoken and signed message highly depends on how an interpreter contextualizes the message in the target language (Janzen & Shaffer, 2008). The team can choose to involve the interlocutors in the process while co-constructing the meaning of the message on varying levels (Hoza, 2021). That choice will have an impact on how the interaction ensues. During this process, interpreters may act as "co-diagnosticians" by "adopting strategies that extend beyond interpreters' functions in bridging

the linguistic and cultural differences and overlap with providers' responsibilities and functions" (Hsieh, 2007, p. 925). If the decisions made by the team stray from the original message in co-diagnostic ways without the provider's knowledge (Hsieh, 2007), the consequences can affect the assessment and treatment of the patient. Prior to viewing the video, not all providers realized that DI-HI teams use different approaches. Upon viewing the video, P7 stated:

> I mean with the first sample that you showed me, I assumed that everything was being interpreted. It's just that the Deaf interpreter was taking more time for some reason. I just didn't understand why there were these long pauses. And now you're saying, no there was actually a conversation that was not being conveyed.

P7 was unaware that the original message was enriched, leaving him to assume the patient understood the message as stated. The level of co-construction/co-diagnostician the DI-HI team uses will either inform providers of how much medical knowledge a patient has or leave providers unaware of how much the patient understood, as was the case with P7. This can result in misleading assumptions about a patient's health literacy. P4 notes, "You just don't know what you don't know. And it's kind of that scenario. Like if someone doesn't bring it up, I have no clue. So, I won't know to ask it; I won't know to change it." Here, P4 expresses a sense of powerlessness. He has no control over what the interpreting team chooses to share with him and has no choice but to hope his message was interpreted and understood.

The participants who came into the interview already aware that interpreters use different approaches were in favor of being part of the co-construction process. For instance, when asked a question about what expectations providers have of DI-HI teams, P3 stated:

> That they are going to relay the message with some level of fidelity. And the fidelity gets, you know…I don't expect that it is word for word what I'm saying. I expect that the gist of the message is true. And I expect that the interpreter will ask clarifying questions if they're not exactly sure what we are discussing. I expect that they will let me know if they think the patient is not understanding the message that is being given. And I expect that after we meet and we discuss…so that's an expectation of myself, that they will share if there were things that they felt could have been communicated better. Or if there was conflict that I might not have picked up on.

P3 clearly expects DI-HI teams to openly communicate with him both during and after an encounter. In other words, P3 expects interpreters to include him in the co-construction process.

These findings suggest that healthcare providers have different expectations and understandings of what DI-HI teams do. For those practitioners who are unaware that interpreting may involve interpreters taking on co-diagnostic roles that they are not privy to (Hsieh, 2007), the power lies with the interpreters, as healthcare providers depend on them for communication.

HEALTH LITERACY REVEALED

When the DI-HI team co-constructs the message with interlocutors, the patient's health literacy becomes evident. Each expansion and example used by the Deaf interpreter that the hearing interpreter shares gives the provider information about the patient's level of health literacy. This

revelation of information will naturally alter how and what the provider communicates. P9 articulates this point well:

> I do think the hearing interpreter, kind of interpreting what the Deaf interpreter was saying to the provider, was helpful. Because I think it just helps the provider know or whoever, you know, whatever staff member it is, know what the conversation is…just to understand I think more of what kind of help or support the patient needed. So, if…I mean if the patient needs a lot of different explanations or different analogies, that just tells you that the patient just has a low health literacy, and you have to approach things a certain way. If they don't need all that, then you know…you know, you can provide them maybe just written information or something a little more straightforward.

This statement is an example of how DI-HI teams can either aid or hinder healthcare providers in the assessment and treatment of patients.

The post-video questions pertained to the two interpreting approaches, [(1) DI expands/provides examples while HI remains quiet; (2) DI expands/provides examples which the HI shares with the provider] and to how those approaches affected the providers' perceptions of the patient's health literacy. All nine participants agreed that the second sample provided a better picture of the patient's health literacy which would impact how they approach the rest of the visit.

Impact on Healthcare Provider's Perception/Practice

When healthcare practitioners are privy to the DI-HI team's use of enrichments and cultural brokering it has the potential to impact their communication approach and medical decision making. The interpreting approach in video sample 2 made the patient's health literacy gaps specific and explicit to the provider. In this simulated interaction, the hearing interpreter specifically shares the metaphors and examples the Deaf interpreter uses. Participant responses indicate that healthcare providers' approaches to patient communication and medical decision-making are designed and redesigned as information is shared (by interpreters) regarding a patient's health literacy and fund of knowledge. P8, for instance, stated that with enough insight, a discernment could be made as to whether or not a patient might benefit from a referral to additional services. Another instance regarding cues healthcare practitioners take from DI-HI teams was identified by P2. She mentioned that when made accessible, the metaphors and examples the Deaf interpreters use serve as a model or point of reference upon which a provider can more accurately assess patient understanding. This in turn allows space for providers to enrich the message by incorporating their own metaphors into their source message.

The information the DI-HI team shares during an interpretation was described as feedback by some of the participants. P7 mentioned this feedback and explained the dependence he has on interpreters by comparing interpreted encounters with those where he can communicate directly:

> But in a…in a different situation where I speak the same language as the patient, I'm getting that feedback. So, if I ask a question and they respond a certain way, I'm getting that feedback and I can alter what I'm saying and how I'm saying it depending on that feedback. Here I'm not getting the feedback, or I am…or I'm…I…I don't know if I'm getting the feedback. So, the more the interpreter is telling me, the better for me because then I can…I can respond differently.

P1 shares a similar perspective; here she explains how feedback from the interpreter influences the way she practices:

> It definitely changes my approach. And again, I…I'm very lucky here because I appreciate the feedback from the interpreting team…like this person may not be able to understand this abstract concept and we need to really break it down. So, I will change the way that I try to explain things. It will often change my other questions too. Like I'm less likely to ask abstract things that I'm not going to get an accurate answer to because it's too abstract. We try to…we try to assess in different ways and we change our assessments a little bit to meet the patient where they're at.

The overall consensus of the participants is that if healthcare providers do not get this feedback and are unaware of how interpreters enrich messages to account for fund-of-knowledge gaps or poor health literacy, neither can be addressed. Every participant agreed that the more interpreters share about why they present information a certain way, the better providers are able to care for patients.

The final question of the interview inquired about which interpreting approach participants prefer when working with a DI-HI team. All nine participants chose video sample 2 (HI actively sharing information regarding the interpretation with providers). The following quote from P5 explains why he supports interpreters as active members of the team: "I just, maybe, maybe it makes me feel more comfortable. Because if it's the wrong way to ask something or if there's a different way to ask something, I know that I'll just be told. And then I'll be like great, let me ask it a different way." The comfort P5 has with DI-HI teams who share information - information he then uses to alter how he communicates - conveys a great deal about the positive impact DI-HI teams can have on healthcare providers' perceptions and practice.

Increased Communication Through Deaf Interpreter Presence

Regardless of the co-construction decisions DI-HI teams make, providers take note of successful communication. When asked generally about any differences they noticed between working with a DI-HI team compared to working with a single hearing interpreter, P6 and P9 mentioned that appointments take much longer when there is a DI-HI team. The other seven participants stated that when a Deaf interpreter is present, the volume of information and the quality of communication improve; there is also an added cultural component that hearing interpreters, when working alone, often lack. P7 claimed, "…there are nuances in that interpretation that don't come across unless the interpreter themselves are very familiar…of the culture itself. So, they are within that culture…" P1 echoed that thought when she said:

> And I think the other addition that was very helpful with having a Certified Deaf Interpreter present, was that they could provide me with cultural background things that I would never think to ask for or understand about Deaf culture. And I think that that was probably the most important…was that I've learned so much in the last few years having a Certified [Deaf] Interpreter as part of our team.

While P6 and P9 did not discuss with specificity the quality of communication when answering the initial question, at other points during the interview they both shared sentiments similar to the other participants regarding culture and communication. In fact, all nine participants said that they

could communicate with patients about more complex topics when a Deaf interpreter was present. For example, P3 stated:

> And so, I think, as a general rule, working with hearing interpreters only is better when I just have to convey specific information or ask straightforward questions. You know, morning rounds where all I'm doing is hoping to get a sense of how symptoms are going. How they're breathing. Things that require less context. The more context the communication needs, the more helpful it has been to have a Deaf interpreter as well.

P3's explicit commentary on the importance of having Deaf interpreters when discussing high context topics with patients underscores the value of DI-HI teams. This is also supported by the other eight participants who recognized enhanced communication in the presence of Deaf interpreters.

PROVIDERS' TRUST IN THE INTERPRETERS AND THE INTERPRETING PROCESS

Trust is essential when professionals from different specialties work together (René de Cotret et al., 2021), such as when healthcare providers work with interpreters. Trust is especially important considering the power interpreters possess (see section: *Power of Interpreters*). Participants noted that the approaches used by DI-HI teams impact whether or not they trust interpreters and the interpreting process. The following subthemes expand upon this topic.

RELATIONSHIP BETWEEN THE PROVIDER AND THE INTERPRETERS

The dynamics between the provider and the DI-HI team was a theme that emerged throughout each interview. The discussions interpreters have with providers prior to the start of appointments, as well as the debrief after, were noteworthy topics. Participants noted that during these pre- and post-meetings they often discussed the DI-HI team's approach.

Participants were specifically asked to share their perspectives on the exchanges they have experienced with DI-HI teams before and after interpreted interactions. In response to this question, one participant expressed hesitation with giving interpreters too much information out of concern that it would influence the interpretation. The remaining eight participants, however, spoke positively about these pre- and post-discussions. Many commented on how these meetings allowed space to develop a shared understanding and trust in the interpreters' process. P3 stated:

> We would huddle with the interpreters beforehand to sort of discuss what needs to happen that day. The Deaf interpreter was really wonderful at sort of guiding how we needed to talk. Providing some of the cultural background in terms of, you know, the level at which the patient is likely to understand or not understand.

Open dialogue created opportunities for both parties to ask questions and learn.

Another factor that affected the relationship between the provider and the interpreters was how transparent the interpreters were with their process. When the Deaf interpreter contextualizes the message by providing an example the patient will relate to or expands on a concept, the hearing interpreter can include the provider in co-constructing the message, or they can remain quiet. When the participants were asked about how they felt when they experienced long periods where nothing was communicated, all nine indicated a negative feeling. P3 described it as, "You get frustrated.

Partly because you feel like you don't know what's going on. And no one likes to feel confused, particularly in medicine." P5 said, "I don't know what's going on because they're just going back and forth. I don't know what's being asked and said." P5 followed up this comment by describing the difference it makes when interpreters include him in the process. He stated, "…the Deaf interpreter team would always be like, I'm going to clarify. Or like, oh I'm going to say it this way. Or ask…So they would keep us up to date on the conversation, which was huge." These responses support the adoption of the community approach to interpreting in the medical setting. When DI-HI teams inform healthcare providers of their process and invite them to co-construct meaning, it fosters positive relationships and mitigates frustration and confusion.

PROVIDERS' PERCEPTIONS ON THE INTERPRETING PROCESS

While most participants had positive things to say about their experiences using DI-HI teams, two described how challenging it is to let go of how they think the message should be presented. To let go is to trust the linguistic and cultural information interpreters share and how the interpreting team presents the information to patients. P3 stated:

> And so, it's not that you are trusting that the message is true, but trusting that that is a better way of saying it. Or that the context being added is necessary. Because there were times where things were said a little bit more matter of fact than I think was 100% medically accurate.

It is important to note that in the scenarios to which P3 is referring, the interpreters' process allowed for him to interject and correct the interpretation at any point necessary because he was part of the interpreters' co-construction process. It suggests that when DI-HI teams are transparent and address communication issues as they arise, strong foundations of trust and understanding are built, especially when the interpretation strays from the speaker's original message.

P7 also found it challenging to let go of how he thinks the message should be presented. He described his hesitation with trusting the team's process in this statement: "And are we adding details that are necessary, or are we adding details that now are taking us away from the original message that the provider is trying to give? I struggle with that." This comment came after it was explained to P7 that the hearing interpreter did not inform the provider that the Deaf interpreter used a garden hose metaphor during the interpretation in video sample 1. P7's concern for adding unnecessary details is valid. If a provider is unaware a patient has poor health literacy, it would be plausible to think the added details are unnecessary. However, if the DI-HI team co-constructs meaning alongside the healthcare practitioner by describing the process of the Deaf interpreter, the provider will then understand the reason for the added details and gain a better understanding of their patient's health literacy gaps.

On a similar note, six participants (P1, P4, P5,P6, P7, P9) emphasized the importance of being informed of how their messages are presented because their assessments rely on how a person communicates. For example, P6 is a specialist who treats patients who present with physical impairments or disabilities due to illness or injury. In this field of medicine, patients' symptoms, diagnoses, and treatment plans are all determined by how a patient communicates. Her ability to help patients, therefore, requires that the interpreting team be forthcoming with precisely what is communicated and how that information is presented.

While two participants felt challenged by interpreters' decisions and processes, seven out of nine described having confidence in the interpreting process. P1, who had the most experience working with DI-HI teams of any participant, made the following comment:

> I mean I can't imagine not having a CDI [Certified Deaf Interpreter] and ASL [American Sign Language Interpreter] team for like, I would say 50% of my pa…I mean I wish they could always have teamed together because I think there's such… so many variables and so many things, so much that a CDI can bring into the clinical setting. So anyways, yeah I would say that across the board I wish that we had them all the time.

PROVIDERS' PERCEPTIONS ON HOW DI-HI TEAMS AFFECT THEIR RELATIONSHIP WITH PATIENTS

The majority of participants claimed DI-HI teams improve the rapport they have with patients. When asked directly, whether or not the rapport developed between patient and provider was affected by interpreters, P2, P3, P4, P5, and P7 stated that the relationship improves with interpreters. The following comment by P3 paints a picture of what it is like to practice medicine through interpreters:

> I think any time where the patient and the provider don't share a common language is a strain on that relationship. And that speaks to culture too. So, the more I have in common with the patient I'm caring for, the easier it is to build rapport in every…you know, the more things between it, the more intentional I have to be to build that trust, that relationship. And having somebody who can help broker that relationship is, you know, invaluable. So, I really think…you know, it's not that the interpreter makes it harder for me to connect. It is that it is really hard to connect and the interpreter helps that. And it's still hard. It is hard to not have that immediate back and forth…and knowing that the warmth of my voice is coming across. It's not like it's the interpreters' fault for that. They improve it.

P8 and P9 claimed that interpreters did not impact the relationship they have with patients, and P6 said the relationship was not "adversely affected." P1 viewed the dynamics quite differently than the rest. She stated, "I don't know if the patients are connected to me. I think they're connected to the interpreters that I work with. I think that I could be any person." She also mentioned that patients seemed to respect her more for having a Deaf interpreter on the team, which aligns with the other five who claim that interpreters improve the relationship they have with patients.

PROVIDER KNOWLEDGE/NEED FOR EDUCATION

This theme explored participants' understanding of DI-HI teams prior to the current study. The expectations participants have and the learning curve involved when working with DI-HI teams are also discussed.

PROVIDERS' JOURNEY TO UNDERSTANDING

This subtheme was a result of noting providers' perceptions and shifts in perceptions regarding interpreting approaches. It also includes expectations healthcare practitioners have of DI-HI teams.

Participants were asked to compare what it was like the first few times they had a DI-HI team to their experience now. P3, P5, P6, P7, P8, and P9 either mentioned a learning curve or

stated they had no idea the first few times what was happening or how to engage with the interpreting team. P1 and P2 did not mention a learning curve, and P4 claimed it has been good from the beginning. Based on the responses to other questions, it was found that six of the nine participants had a general understanding of how to utilize DI-HI teams effectively.

All participants were asked about their expectations of DI-HI teams. P7 and P8 both stated that they expected "excellent communication" when a Deaf interpreter was present, even before they fully understood how teams work. Prior to viewing the sample interpretations, five participants expected the DI-HI team to inform them if the interpretation required enrichment; they also expected the team to signal to them when the enrichment occurred.

DI-HI teams left a lasting impression on P5 and P1. They both talked about the difference having a team of interpreters makes in their ability to do their jobs. With DI-HI teams, they are "better able to evaluate and assess...patients" P1 stated. When asked about any cases that made an impression, P5 gave this response:

> Like ever since then, I refuse to see persons whose language is not English [without interpreters]. Even if they can speak it. Because I've seen patients on consults and I've made pretty frank comments to the primary team being like…Hey, by the way, I spoke to the patient in their primary language using an interpreter for the first time since they've been here, and they have no clue that they have cancer. I'm letting you know that the rehab person just told them they have cancer. Like, it's happened multiple times. So, if there's…if I had…I could talk about this case like a million different ways. But I'd say that the biggest thing is that there is so much lost in translation. And it's just huge. It's huge that you have to speak to these, to the patients in their primary language. But I'd say that's the biggest, the biggest thing that's changed in my…the way I practice.

The lasting impression DI-HI teams have on healthcare practitioners can be powerful. P5's experience was so moving that he now refuses to talk to patients without an interpreter if their primary language is not English, even if they could potentially get by without one.

Educational Opportunities Identified

Educational opportunities were suggested and identified by participants without prompting. P1, P8, and P9 specifically mentioned that providers need more education. P9 describes it as a learning opportunity when she said:

> I just think there's a big learning opportunity for everyone. And I think if you…I think if you haven't had the experience of working with the Deaf and hearing interpreting services, I don't think you really get it. So, I think, yeah. I think there's a big gap for understanding.

P2 suggested interpreters may want to take a minute or two, either before or after a visit, to explain to practitioners the potential for the patient to have poor health literacy and/or gaps in their fund of knowledge. She was implying that providers with little knowledge of signed languages and Deaf culture are likely unaware of such issues.

Participants agreed that more education on the benefits of DI-HI teams in healthcare is needed. The following quote from P1 about the benefits of DI-HI teams sums up this section well:

> I think it's a platform for providers to really understand Deaf culture. I think it's imperative to have an ASL and a CDI interpreter so that we understand, culturally, our patients a little bit better. And there's no other opportunity than that kind of a setting or situation, where we can ask questions about the Deaf culture. And so that, I want to say. I want to say that I think that's really, really important.

DISCUSSION

This study aimed to garner healthcare practitioners' perceptions of DI-HI teams and to learn their preferences on how DI-HI teams approach interpreting. The results of the study highlight the power and influence interpreters have on healthcare providers' perception of their patient's health literacy. As such, the findings challenge the merit of the current practices enacted by those hearing interpreters who remain silent while Deaf interpreters expand on healthcare practitioners' messages. Specifically, this choice impacts how providers communicate with and assess patients.

When a DI-HI team interprets a healthcare practitioner's message, the process can involve enrichment and cultural brokering to expand on medical concepts as the Deaf interpreter did in the sample videos. While Deaf interpreters employ these strategies, hearing interpreters are faced with the decision to remain silent during the enrichment or to involve healthcare practitioners in their co-construction process. It is evident from the participant quotes above that healthcare providers' uncertainty of the interpreting process stems from the expectation that interpreters will render an interpretation that is equivalent to their original message, without enrichment. When Deaf interpreters use cultural brokering and expansions, the original message becomes enriched; implied contextual references are made explicit and metaphors are used to elucidate the meaning of a provider's message (McDermid, 2010). While these techniques produce culturally and linguistically equivalent interpretations, if the provider is not made aware of the degree of enrichment, they may misperceive the patient's health literacy.

When a hearing interpreter offers information about how a Deaf interpreter presents a message, it gives the healthcare provider an inside look into how the patient understands the world, and it provides information on the patient's level of health literacy. Poor health literacy among the Deaf community (Pollard & Barnett, 2009; Smith & Samar, 2016) makes informing providers about how the DI-HI team presents their message to patients even more pertinent. Additionally, Hsieh (2007) found that interpreters make assumptions about providers' communication goals without explicitly discussing them. Findings of the current study indicate that providers' communication goals *involve* knowing how their messages are perceived as a proxy measure for their patients' health literacy. Participants expressed a preference for transparency when strategies are used that enrich their message to allow for an opportunity to correct the interpretation or add to it if necessary; if this opportunity is not afforded because of an assumption, their diagnosis and treatment decisions could be adversely affected. If interpreting teams continue to practice without considering their power and influence, misperceptions will continue with the potential to cause harm.

There is literature on interpreting that claims the interpreter "co-ordinates" or acts as a gatekeeper of interactions between participants (Wadensjö, 1993, p. 107); interpreters "co-construct meaning" with interlocutors (Janzen & Shaffer, 2013, p. 64); interpreters act as co-diagnostician with healthcare providers (Davidson, 2001; Hsieh, 2007). These studies describe interpreting as more than message transfer, with the recognition that context matters and

interpersonal dynamics are affected by the presence of interpreters. The participants in this study expect interpreters to provide feedback when communication issues arise, which aligns with and supports the existing literature. "Interpreting inherently requires participants to trust the interpreting process and trust can be accomplished when interpreters and teams work with participants to ensure that they have the most successful experience possible" (Hoza, 2021, p. 229).

To foster the trust of healthcare practitioners and Deaf patients, DI-HI teams have a unique ability to provide cultural mediation to both interlocutors at the same time. Participants who experienced this interpreting approach in practice expressed respect for Deaf interpreters and trust in the team, so much so that some held off on having important conversations until a Deaf interpreter became available to team with the hearing interpreter. This choice was based on experiencing improved communication and patient interaction in the presence of a Deaf interpreter, which underscores the value of team interpreting, specifically one that includes a Deaf interpreter. Even with six of the nine participants recalling the awkwardness of working with teams initially, once the benefit became evident, DI-HI teams were requested. When given a choice for how DI-HI teams should approach the work, every participant expressed the desire to be part of the process (i.e., the community approach to interpreting).

The interpersonal relationship between interpreter and healthcare practitioner is vital to effective communication. Participants in this study expressed trust issues with hearing interpreters who remain silent while Deaf interpreters expand on practitioners' messages. This calls into question how interpreters are trained. Dean (2021) argues that interpreters pursuing a specialty in healthcare should emulate the training of practice professionals, such as healthcare providers, to gain mastery that prepares practitioners for those settings. "[T]eaching only technical skills and other academic content is inadequate. Sufficient time and professional oversight need to be invested for a budding practitioner to develop the necessary interpersonal and judgment skills to be successful in their profession" (Dean & Pollard, 2018, p. 39). In addition, "[f]inding ways in which the values of our profession…can be adhered to in ways that uphold, or at least do not thwart, the values of other practice professionals and those of our shared clientele is the most effective way to negotiate pathways toward effective practice" (Dean & Pollard 2018, p. 61). There is no question that interpreters strive to provide effective communication. What this study aims to add to the discussion is a closer look at approaches DI-HI teams use to achieve effective communication in healthcare settings and how those approaches impact providers' communication with and perceptions of their patients.

LIMITATIONS OF THE STUDY

There are three major limitations in this study that could be addressed in future research. First, the researcher has worked with all but one participant in this study. Therefore, participants' responses may have been influenced by the likelihood that they may work together in the future. To avoid this in subsequent studies, the researcher may choose to cast a wider net by snowball sampling to seek out providers who have experience with DI-HI teams but do not work in the same location. Another option could be to use external interviewers who have no connection to the participants. Second, an explanation was given to participants describing what to look for when watching the sample videos, however, it became evident that the description provided was not clear. In future studies, the explanation accompanying the video samples should be written out, piloted, and shared with the participants at the beginning of the interview. Lastly, this study may have limited

replicability. To the author's knowledge, no other hospital system employs the large number of highly qualified hearing and Deaf signed language interpreters as the one in this study. The experiences healthcare providers have with DI-HI teams in other parts of the country may be vastly different because they may only encounter DI-HI teams on rare occasions. When a DI-HI team is provided, the interpreters may not be used to working together and/or may not be well versed in healthcare interpreting. Though this is a limitation, it could be considered groundbreaking for the same reasons. It would be beneficial, as DI-HI teams become more prevalent, to have more in-depth research on providers who regularly work with a variety of DI-HI teams to further explore the benefits of Deaf interpreters in healthcare settings.

CONCLUSIONS

The perceptions and preferences of healthcare providers who work with DI-HI teams can inform best practice for healthcare interpreters. The interpreting approaches DI-HI teams use have an impact on a healthcare provider's perception of a patient's health literacy. The approach also influences how providers communicate with and assess their patients. Participants expressed frustration with teams who do not include them in the co-construction of their message which suggests a preference for the community approach to interpreting. Results indicate that the more each team member uses role-space to invite co-construction of the message, the more trust is gained, opening up opportunities to explore different ways to communicate. Specialized training for all interpreters who work in healthcare, especially for DI-HI teams is needed. Specifically, teams need to improve their attempts to describe to healthcare providers the purpose and benefit of their presence while simultaneously welcoming further questions and discussion. This study focuses on the hearing interlocutor's perspective; future studies should explore the Deaf patient's experience. Further research is needed on DI-HI team interpreting approaches in not only healthcare, but other settings as well.

REFERENCES

Adam, R., Stone, C., Collins, S. D., & Metzger, M. (2014). *Deaf interpreters at work: International insights*. Gallaudet University Press.

Cogen, C. & Cokely, Dennis. (2015). Preparing Interpreters for Tomorrow: Report on a Study of Emerging Trends in Interpreting and Implications for Interpreter Education [National Interpreter Education Center]. Boston, MA: Northeastern University.

Constand, M. K., MacDermid, J. C., Dal Bello-Haas, V., & Law, M. (2014). Scoping review of patient-centered care approaches in healthcare. *BMC Health Services Research*, *14*(1), 271. https://doi.org/10.1186/1472-6963-14-271

Davidson, B. (2001). Questions in cross-linguistic medical encounters: The role of the hospital interpreter. *Anthropological Quarterly*, *74*(4), 170–178.

Davis, T. C., & Wolf, M. S. (2004). Health Literacy: Implications for Family Medicine. *Family Medicine*, *36*(8), 595–598.

Dean, R. (2021). Reflection-in-action: Measuring "context" in medical interpreting. *Linguistica Antverpiensia, New Series: Themes in Translation Studies, 20*, 248–266.

Dean, R. K., & Pollard, R. Q. (2018). Promoting the use of normative ethics in the practice profession of community interpreting. In L. Roberson & S. Shaw (Eds.), *Signed language interpreting in the 21st century: Foundations and Practice* (pp. 37-64). Gallaudet University Press.

Ebert, D. A., & Heckerling, P. S. (1995). Communication with deaf patients: Knowledge, beliefs, and practices of physicians. *JAMA*, *273*(3), 227–229.

Forestal, E. M. (2011). *Deaf interpreters: Exploring their processes of interpreting.* (Doctoral dissertation). Retrieved from Capella University ProQuest Dissertations Publishing. (3487205)

Forestal, E. M. (2014). Deaf interpreters: The dynamics of their interpreting process. In R. Adam, C. Stone, S. Collins & M. Metzger (Eds.), *Deaf interpreters at work: International insights* (pp. 29–50). Gallaudet University Press.

Hale, S., & Napier, J (2013). *Research methods in interpreting: A practical resource*. India: Bloomsbury Academic.

Hall, W. C., Smith, S. R., Sutter, E. J., DeWindt, L. A., & Dye, T. D. V. (2018). Considering parental hearing status as a social determinant of deaf population health: Insights from experiences of the "dinner table syndrome." *PLOS ONE 13*(9), 1–8. https://doi.org/10.1371/journal.pone.0202169

Hoza, J. (2021). Team interpreting as collaboration and interdependence: A return to a community approach. Registry of Interpreters for the Deaf.

Hsieh, E. (2007). Interpreters as co-diagnosticians: Overlapping roles and services between providers and interpreters. *Social Science & Medicine, 64*(4), 924–937.

Hsieh, E. (2015). Not just "getting by": Factors influencing providers' choice of interpreters. *Journal of General Internal Medicine, 30*(1), 75–82.

Hsieh, E., & Kramer, E. M. (2012). Medical interpreters as tools: Dangers and challenges in the utilitarian approach to interpreters' roles and functions. *Patient Education and Counseling, 89*(1), 158–162.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288.

Janzen, T., & Shaffer, B. (2008). Intersubjectivity in interpreted interactions: The interpreter's role in co-constructing meaning. In J. Zlatev, T. P. Racine, C. Sinha, & E. Itkonen (Eds.), *The shared mind: Perspectives on intersubjectivity* (pp. 333-355). John Benjamins.

Janzen, T., & Shaffer, B. (2013). The interpreter's stance in intersubjective discourse. In L. Meurant, A. Sinte, M. Van Herreweghe, & M. Vermeerbergen (Eds.), *Sign language research, uses and practices: Crossing views on theoretical and applied sign language linguistics* (pp. 63-84). De Gruyter.

Kent, S. J. (2012). Deaf voice and the invention of community interpreting. *Journal of Interpretation, 22*(1), 1–63.

Leanza, Y. (2005). Roles of community interpreters in pediatrics as seen by interpreters, physicians and researchers. *Interpreting: International Journal of Research and Practice in Interpreting, 7*(2), 167–192.

Llewellyn-Jones, P., & Lee, R. G. (2014). *Redefining the role of the community interpreter: The concept of role-space*. SLI Press.

McDermid, C. (2010). Culture brokers, advocates, or conduits: Pedagogical considerations for deaf interpreter education. *International Journal of Interpreter Education, 2*(1), 76–101.

Miklavcic, A., & LeBlanc, M. N. (2014). Culture brokers, clinically applied ethnography, and cultural mediation. In L. J. Kirmayer, J. Guzder, & C. Rousseau (Eds.), *Cultural consultation: Encountering the other in mental health care* (pp. 115-137). Springer.

Nicodemus, B., & Emmorey, K. (2013). Direction asymmetries in spoken and signed language interpreting. *Bilingualism, 16*(3), 624–636.

Pittarello, S. (2009). Interpreter mediated medical encounters in north Italy: Expectations, perceptions and practice. *The Interpreters' Newsletter,* 59–90.

Pollard, R. Q., & Barnett, S. (2009). Health-related vocabulary knowledge among deaf adults. *Rehabilitation Psychology, 54*(2), 182–185.

Pudans-Smith, K. K., Cue, K. R., Wolsey, J.-L. A., & Clark, M. D. (2019). To Deaf or not to deaf: That is the Question. *Psychology*, *10*(15), Article 15. https://doi.org/10.4236/psych.2019.1015135

Reinhardt, L. (2015). *Deaf-hearing interpreter teams: Navigating trust in shared space*. (Master's thesis). Retrieved from Western Oregon University, Monmouth, OR. (https://digitalcommons.wou.edu/theses/21)

René de Cotret, F., Brisset, C., & Leanza, Y. (2021). A typology of healthcare interpreter positionings: When "neutral" means "proactive." *Interpreting: International Journal of Research and Practice in Interpreting, 23*(1), 103–126.

Russell, D. (2017). Deaf/non-deaf interpreter teams: Canadian insights on the complexity of professional practice. In C. Stone & L. Leeson (Eds.), *Interpreting and the politics of recognition* (pp. 138-158). Routledge.

Schwei, R. J., Guerrero, N., Small, A. L., & Jacobs, E. A. (2019). Physician perceptions of the types of roles interpreters play in limited English proficient pediatric encounters and how they evaluate the quality of interpretation. *Primary Health Care Research & Development, 20*, 1-6.

Sequeiros, X. R. (2002). Interlingual pragmatic enrichment in translation. *Journal of Pragmatics, 34*(8), 1069–1089. https://doi.org/10.1016/S0378-2166(02)00026-7

Smith, S. R., & Samar, V. J. (2016). Dimensions of deaf/hard-of-hearing and hearing adolescents' health literacy and health knowledge. *Journal of Health Communication, 21*(sup2), 141–154.

Standard Practice Paper: Use of a Certified Deaf Interpreter. (1997). Retrieved from https://drive.google.com/file/d/0B3DKvZMflFLdbXFLVVFsbmRzTVU/view?resourcekey=0-DOFw0jDu1kIDMlsVKhi29g&usp=embed_facebook

Stone, C., & Russell, D. (2014). Conference interpreting and interpreting teams. In R. Adam, C. Stone, S. Collins & M. Metzger (Eds.), *Deaf interpreters at work: International insights* (pp. 140-156). Gallaudet University Press.

Suarez, N. R. E., Urtecho, M., Jubran, S., Yeow, M.-E., Wilson, M. E., Boehmer, K. R., & Barwise, A. K. (2021). The Roles of medical interpreters in intensive care unit communication: A qualitative study. *Patient Education and Counseling, 104*(5), 1100–1108.

Valero-Garcés, C. (2005). Doctor–patient consultations in dyadic and triadic exchanges. *Interpreting: International Journal of Research and Practice in Interpreting, 7*(2), 193–210.

Wadensjö, C. (1993). The double role of a dialogue interpreter. *Perspectives, 1*(1), 105–121.